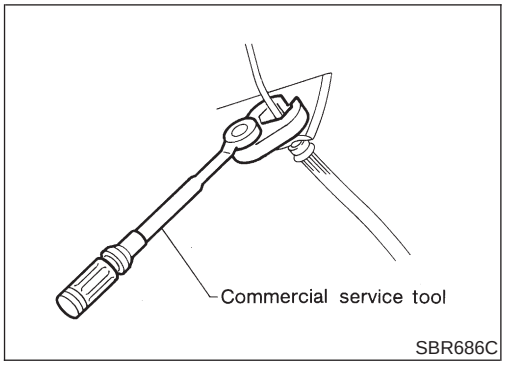
FRONT & REAR SUSPENSION

SECTION SU

CONTENTS



SBR686C

Precautions

PRECAUTIONS

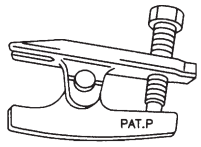
NJSU0001

- **When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground. Oil will shorten the life of rubber bushes. Be sure to wipe off any spilled oil.**
  ***: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.**
- **After installing removed suspension parts, check wheel alignment and adjust if necessary.**
- **Use flare nut wrench when removing or installing brake tubes.**
- **Always torque brake lines when installing.**
- **Lock nuts are unreusable parts; always use new ones. When replacing, do not wipe the oil off the new lock nut before tightening.**

Preparation

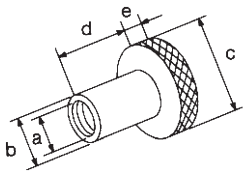
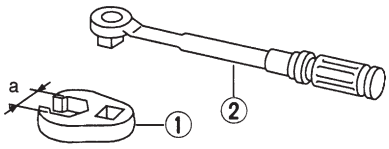
SPECIAL SERVICE TOOLS

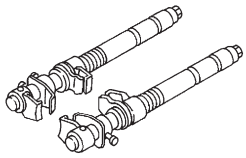
NJSU0002

Tool number Tool name	Description	
HT72520000 Ball joint remover	 NT146	Removing tie-rod outer end and lower ball joint

COMMERCIAL SERVICE TOOLS

NJSU0003

Tool name	Description	
Attachment Wheel alignment	 NT148	Measure wheel alignment **a: Screw M24 x 1.5 pitch** **b: 35 mm (1.38 in) dia.** **c: 65 mm (2.56 in) dia.** **d: 56 mm (2.20 in)** **e: 12 mm (0.47 in)**
1 Flare nut crowfoot 2 Torque wrench	 NT360	Removing and installing each brake piping **a: 10 mm (0.39 in)**

Tool name	Description
Spring compressor	 NT717 Removing and installing coil spring

Noise, Vibration and Harshness (NVH) Troubleshooting

=NJSU0004

NVH TROUBLESHOOTING CHART

NJSU0004S01

Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

		Reference page	SU-5, 17	SU-10, 21	—	—	—	SU-9, 20	SU-7	SU-11	SU-7	—	—	—	—	—	—	AX-3	AX-3	Refer to SUSPENSION in this chart.	Refer to TIRES in this chart.	Refer to ROAD WHEEL in this chart.	BR-6	ST-5
		Possible Cause and SUSPECTED PARTS	Improper installation, looseness	Shock absorber deformation, damage or deflection	Bushing or mounting deterioration	Parts interference	Spring fatigue	Suspension looseness	Incorrect wheel alignment	Stabilizer bar fatigue	Out-of-round	Imbalance	Incorrect air pressure	Uneven tire wear	Deformation or damage	Non-uniformity	Incorrect tire size	DRIVE SHAFT	AXLE	SUSPENSION	TIRES	ROAD WHEEL	BRAKES	STEERING
Symptom	SUSPENSION	Noise	×	×	×	×	×	×										×	×		×	×	×	×
		Shake	×	×	×	×		×										×	×		×	×	×	×
		Vibration	×	×	×	×	×											×	×		×			×
		Shimmy	×	×	×	×			×										×		×	×	×	×
		Judder	×	×	×														×		×	×	×	×
		Poor quality ride or handling	×	×	×	×	×		×	×									×		×	×		
	TIRES	Noise	×								×	×	×	×	×	×		×	×	×		×	×	×
		Shake	×								×	×	×	×	×		×	×	×	×		×	×	×
		Vibration											×				×	×	×	×				×
		Shimmy	×								×	×	×	×	×	×	×		×	×		×	×	×
		Judder	×								×	×	×	×	×		×		×	×		×	×	×
		Poor quality ride or handling	×								×	×	×	×	×		×		×	×		×		
	ROAD WHEEL	Noise	×								×	×			×			×	×	×	×		×	×
		Shake	×								×	×			×			×	×	×	×		×	×
		Shimmy, Judder	×								×	×			×				×	×	×		×	×
		Poor quality ride or handling	×								×	×			×				×	×	×			

×: Applicable

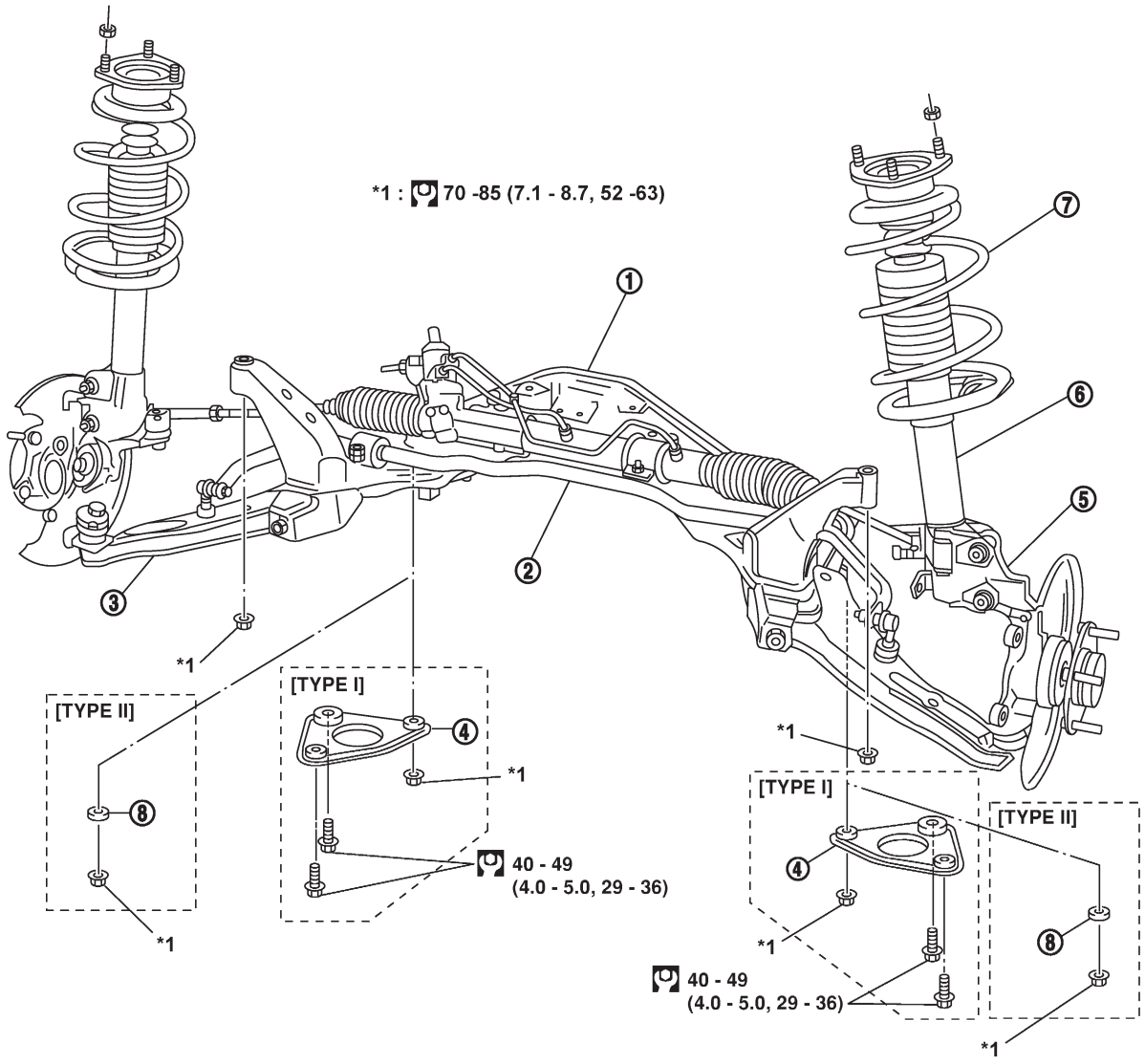
Components

NJSU0005

SEC. 391•400•401

When installing rubber parts, final tightening must be carried out under unladen condition* with tires on ground.

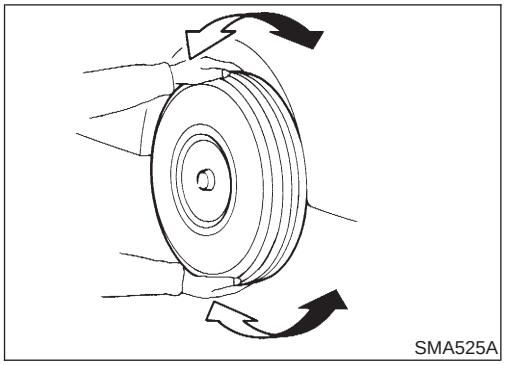
*** Fuel, radiator coolant and engine oil full.**
Spare tire, jack, hand tools and mats in designated positions.



: N•m (kg-m, ft-lb)

NAX016

1. Front suspension member
2. Stabilizer bar
3. Transverse link
4. Member pin stay
5. Knuckle
6. Strut assembly
7. Coil spring
8. Washer


SMA525A

On-vehicle Service

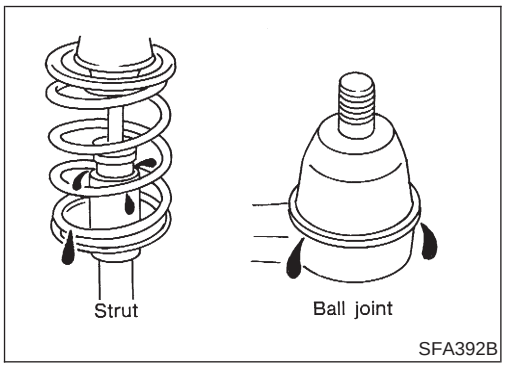
FRONT SUSPENSION PARTS

NJSU0006

Check front axle and front suspension parts for excessive play, cracks, wear or other damage.

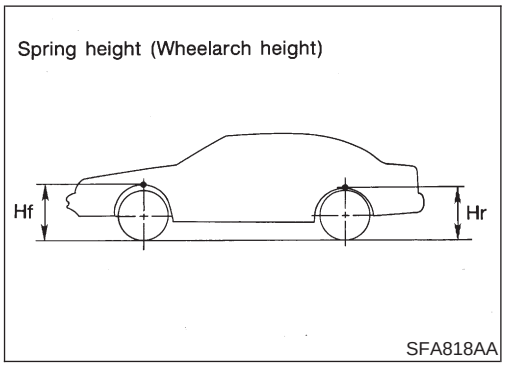
- Shake each front wheel to check for excessive play.
- Make sure that cotter pin is inserted.
- Retighten all axle and suspension nuts and bolts to the specified torque.

Tightening torque:
Refer to "FRONT SUSPENSION", SU-5.



SFA392B

- Check strut (shock absorber) for oil leakage or other damage.
- Check suspension ball joint for grease leakage and ball joint dust cover for cracks or other damage.
  If ball joint dust cover is cracked or damaged, replace transverse link.



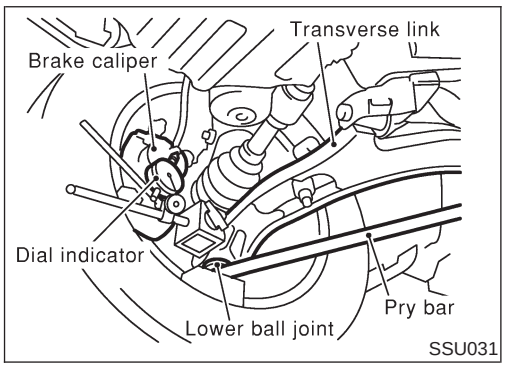
SFA818AA

- Check spring height from top of wheelarch to the ground.

a) Vehicle must be unladen*, parked on a level surface, and tires checked for proper inflation and wear (tread wear indicator must not be showing).
   *: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

b) Bounce vehicle up and down several times before measuring.
   Standard height: Refer to SDS, SU-15.

c) Spring height is not adjustable. If out of specification, check for worn springs or suspension parts.



SSU031

- Check suspension ball joint end play.

a) Jack up front of vehicle and set the stands.

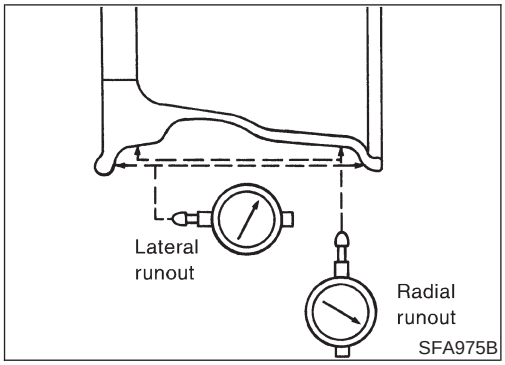
b) Clamp dial indicator onto transverse link and place indicator tip on lower edge of brake caliper.

c) Make sure front wheels are straight and brake pedal is depressed.

d) Place a pry bar between transverse link and inner rim of road wheel.

e) While raising and releasing pry bar, observe maximum dial indicator value.
   Vertical end play: 0 mm (0 in)

f) If ball joint movement is beyond specifications, remove and replace it.



BALANCING WHEELS

NJSU0042

Preliminary Inspection

NJSU0042S01

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

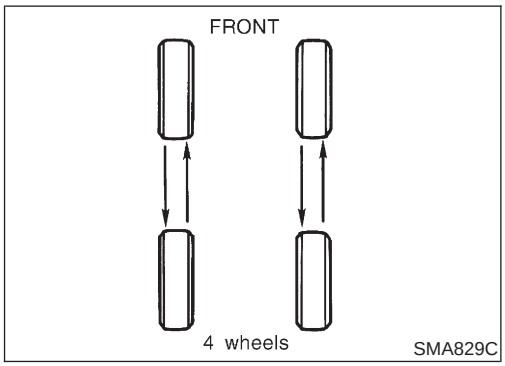
a. Remove tire from wheel and mount wheel on a tire balance machine.

b. Set dial indicator as shown in the illustration.

Wheel runout (Dial indicator value):

Refer to SDS, SU-15.

3. Check front wheel bearings for looseness.
4. Check front suspension for looseness.
5. Check steering linkage for looseness.
6. Check that front shock absorbers work properly.
7. Check vehicle posture (Unladen).



TIRE ROTATION

NJSU0043

- Do not include the T-type spare tire when rotating the tires.

Wheel nuts:

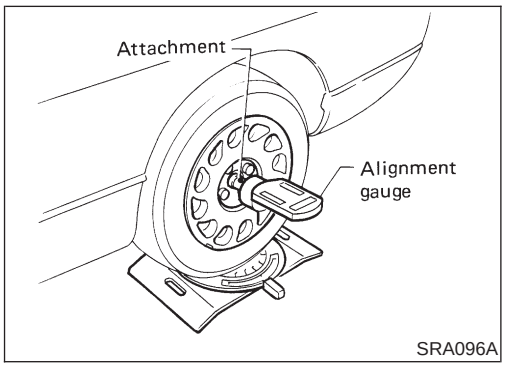
: 98 - 118 N·m (10.0 - 12.0 kg-m, 72 - 87 ft-lb)

FRONT WHEEL ALIGNMENT

NJSU0045

Before checking front wheel alignment, be sure to make a preliminary inspection (Unladen*).

*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.



Camber, Caster and Kingpin Inclination

NJSU0045S01

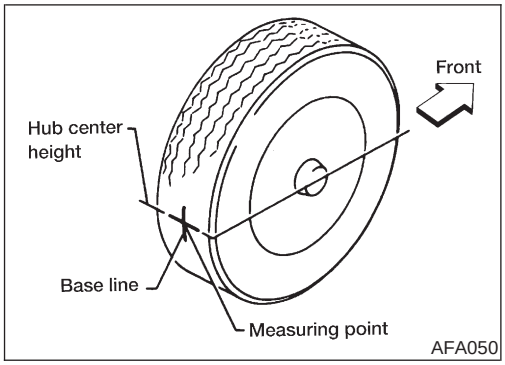
Camber, caster and kingpin inclination are preset at factory and cannot be adjusted.

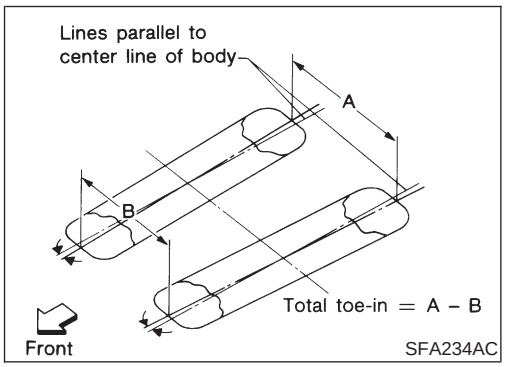
1. Measure camber, caster and kingpin inclination of both right and left wheels with a suitable alignment gauge.

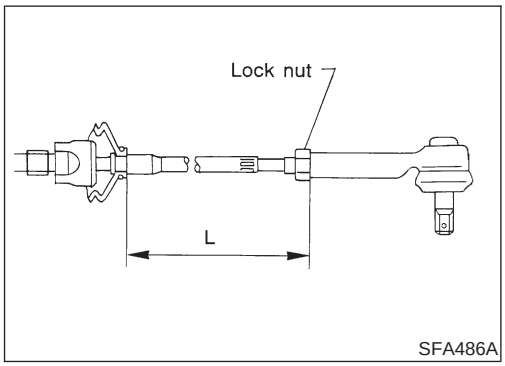
Camber, caster and kingpin inclination:

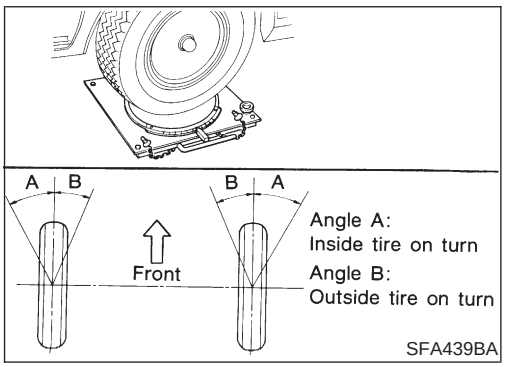
Refer to SDS, SU-14.

2. If camber, caster or kingpin inclination is not within specification, inspect front suspension parts. Replace damaged or worn out parts.









Toe-in

NJSU0045S02

Measure toe-in using the following procedure.

WARNING:

- **Always perform the following procedure on a flat surface.**
- **Make sure that no person is in front of the vehicle before pushing it.**

1. Bounce front of vehicle up and down to stabilize the posture.
2. Push the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of tread (rear side) of both tires at the same height as hub center. These are measuring points.
4. Measure distance "A" (rear side).
5. Push the vehicle slowly ahead to rotate the wheels 180 degrees (1/2 turn).

If the wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Never push vehicle backward.

6. Measure distance "B" (front side).

   Total toe-in:

   Refer to SDS, SU-14.

7. Adjust toe-in by varying the length of steering tie-rods.

a. Loosen lock nuts.

b. Adjust toe-in by screwing tie-rods in and out.

   Standard length "L":

   Refer to ST-30, "SDS".

c. Tighten lock nuts to specified torque.

   Lock nut tightening torque:

   Refer to ST-15, "POWER STEERING GEAR AND LINKAGE".

Front Wheel Turning Angle

NJSU0045S03

1. Set wheels in straight-ahead position. Then move vehicle forward until front wheels rest on turning radius gauge properly.
2. Rotate steering wheel all the way right and left; measure turning angle.

   Do not hold the steering wheel on full lock for more than 15 seconds.

   Wheel turning angle (Full turn):

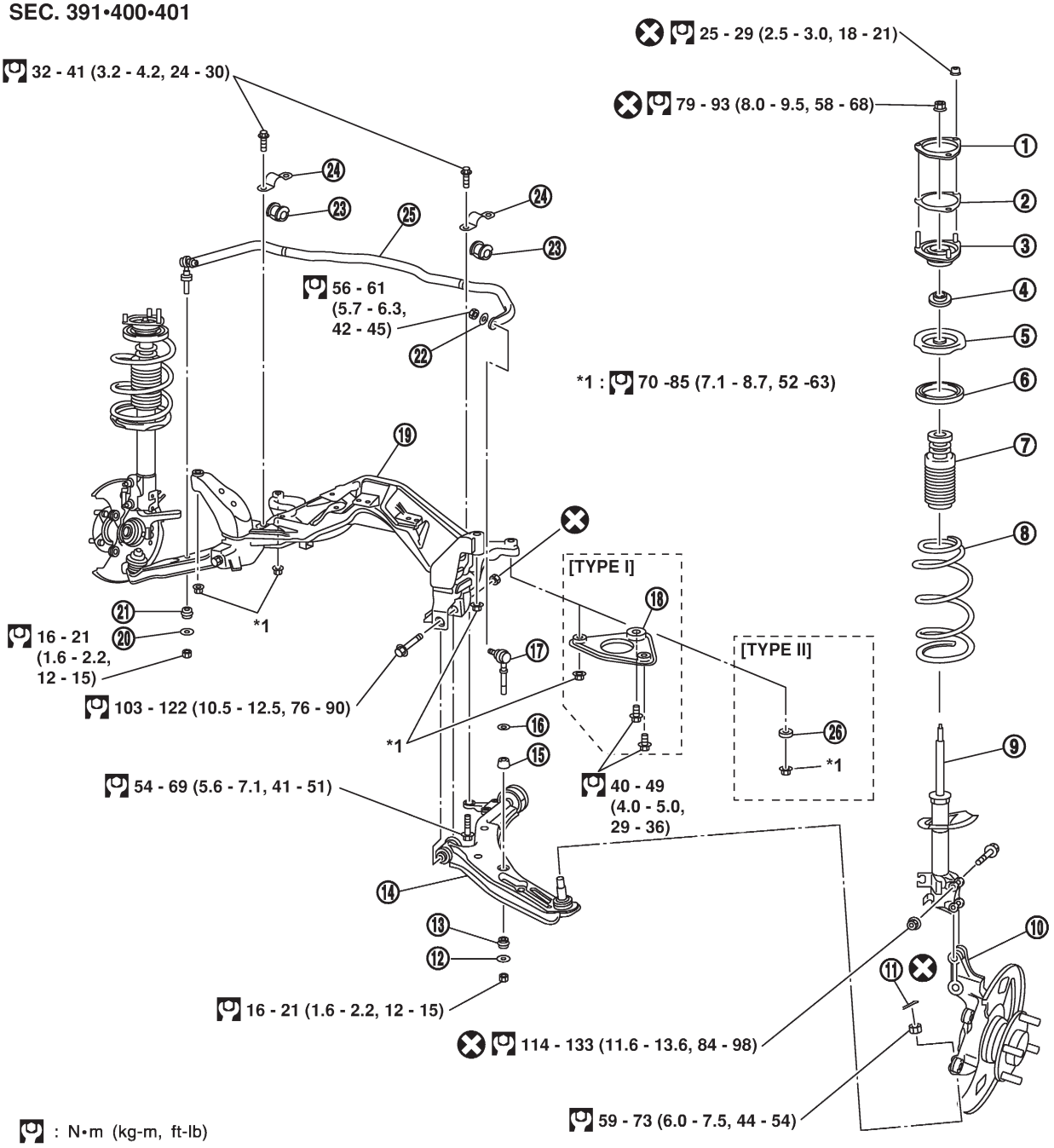
   Refer to SDS, SU-14.

Coil Spring and Shock Absorber

COMPONENTS

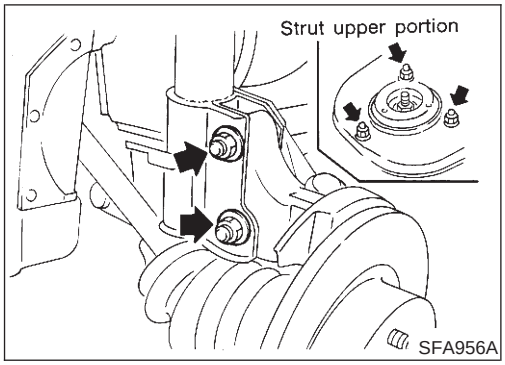
=NJSU0008

SEC. 391•400•401



NAX017

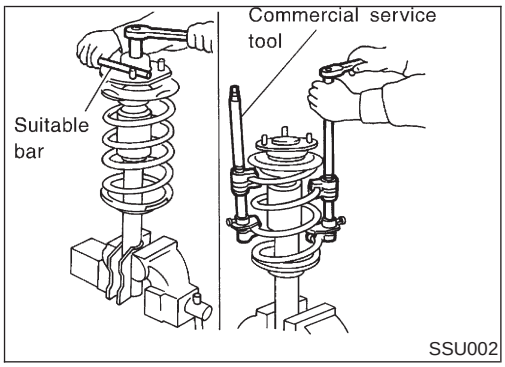
1. Strut mount upper plate
2. Strut spacer
3. Strut mount insulator
4. Thrust bearing
5. Upper spring seat
6. Upper rubber seat
7. Bound bumper rubber
8. Coil spring
9. Shock absorber
10. Wheel hub and steering knuckle
11. Cotter pin
12. Washer
13. Bush
14. Transverse link
15. Bush
16. Washer
17. Connecting rod
18. Member pin stay
19. Suspension member
20. Washer
21. Bush
22. Washer
23. Bush
24. Clamp
25. Stabilizer
26. Washer



REMOVAL AND INSTALLATION

=NJSU0009

- Remove shock absorber fixing bolt and nut (to hoodledge).
- **Do not remove piston rod lock nut on vehicle.**



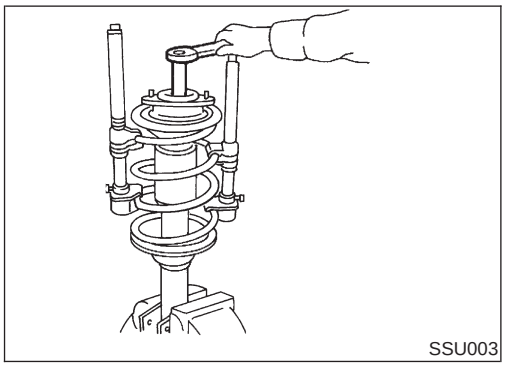
DISASSEMBLY

NJSU0010

1. Set shock absorber on vise, then **loosen** piston rod lock nut.
- **Do not remove piston rod lock nut at this time.**
2. Compress spring with Tool so that shock absorber mounting insulator can be turned by hand.

WARNING:

Make sure that the pawls of the two spring compressors are firmly hooked on the spring. The spring compressors must be tightened alternately so as not to tilt the spring.



3. Remove piston rod lock nut.

INSPECTION

NJSU0011

Shock Absorber Assembly

NJSU0011S01

- Check for smooth operation through a full stroke, both compression and extension.
- Check for oil leakage on welded or gland packing portions.
- Check piston rod for cracks, deformation or other damage. Replace if necessary.

Mounting Insulator and Rubber Parts

NJSU0011S02

- Check cemented rubber-to-metal portion for separation or cracks. Check rubber parts for deterioration. Replace if necessary.

Thrust Bearing

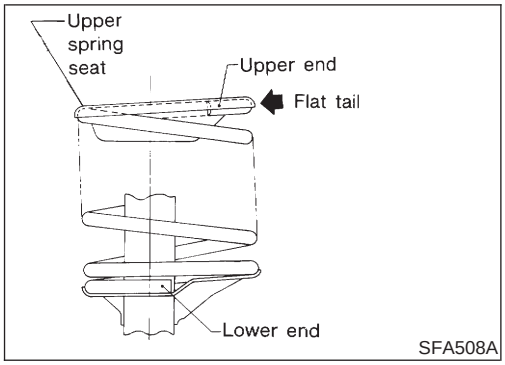
NJSU0011S06

- Check thrust bearing parts for abnormal noise or excessive rattle in axial direction.
- Replace if necessary.

Coil Spring

NJSU0011S03

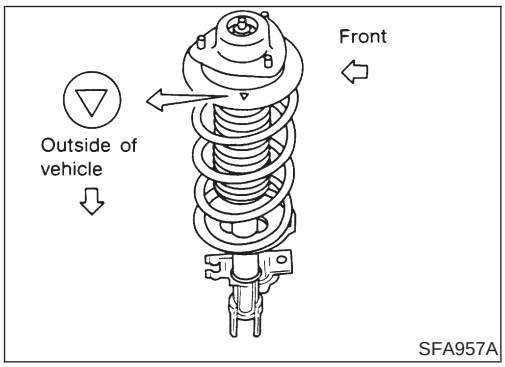
- Check for cracks, deformation or other damage. Replace if necessary.



ASSEMBLY

NJSU0012

- When installing coil spring on strut, it must be positioned as shown in the figure at left.



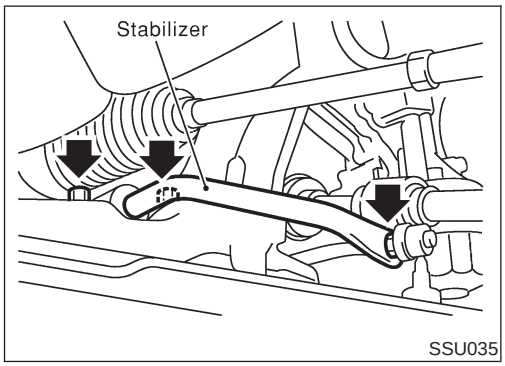
- When installing spring seat, make sure that it is positioned as shown.

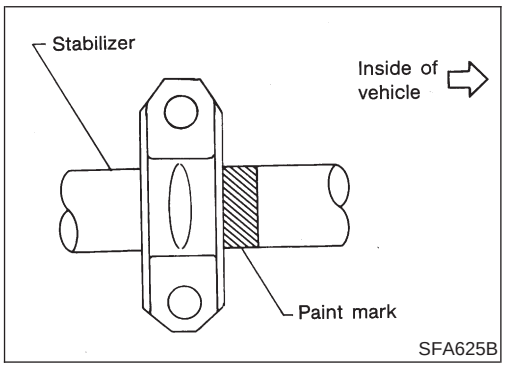
Stabilizer Bar

REMOVAL AND INSTALLATION

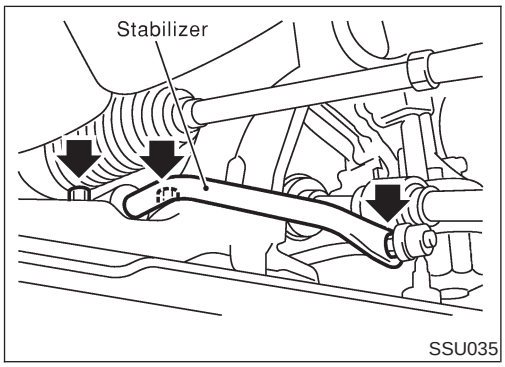
NJSU0017

- Remove stabilizer bar.

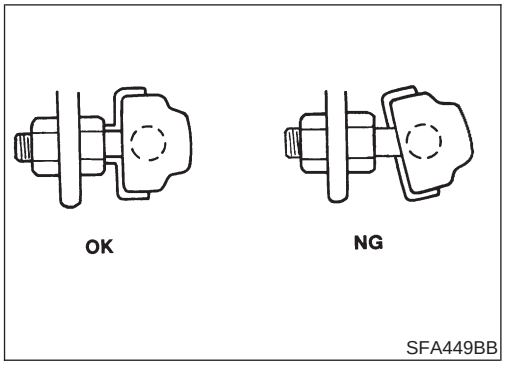




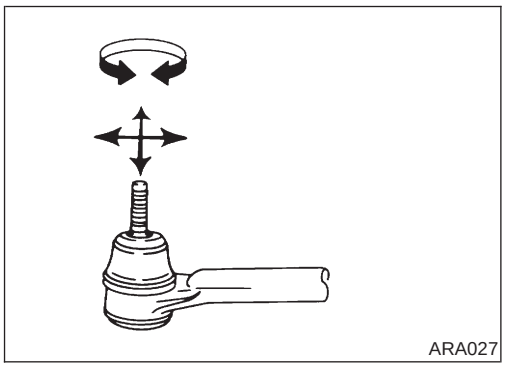
- When installing stabilizer, make sure paint and clamp face in their correct directions.



- When removing and installing stabilizer bar.



- Install stabilizer bar with ball joint socket properly placed.

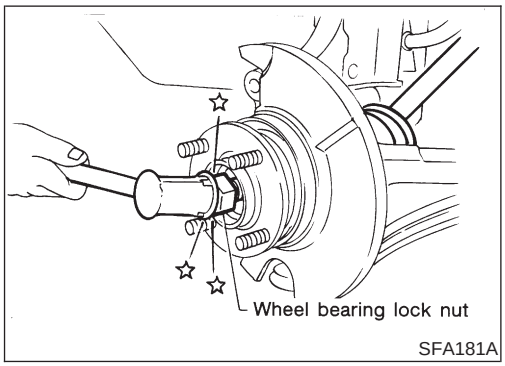


- Check stabilizer for deformation or cracks. Replace if necessary.
- Check rubber bushings for deterioration or cracks. Replace if necessary.
- Check ball joint can rotate in all directions. If movement is not smooth and free, replace stabilizer bar connecting rod.

Transverse Link and Lower Ball Joint

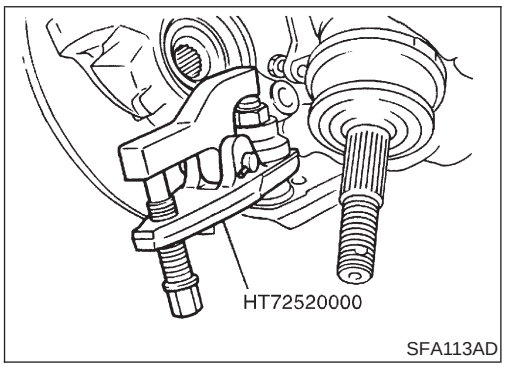
REMOVAL AND INSTALLATION

NJSU0018

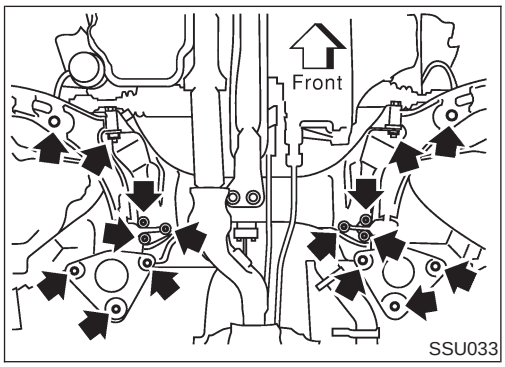


1. Remove wheel bearing lock nut.
2. Remove tie-rod ball joint.
3. Remove strut lower bracket fixing bolts and nuts.
4. Separate drive shaft from knuckle by slightly tapping drive shaft end.

Cover boots with shop towel so as not to damage them when removing drive shaft.



5. Separate lower ball joint stud from knuckle with suitable tool. Refer to AX-5, "FRONT AXLE — Wheel Hub and Knuckle".



6. Remove fixing bolts.
7. Remove transverse link and lower ball joint.
8. During installation, final tightening must be carried out at curb weight with tires on the ground.

   Tightening torque:

   Refer to "FRONT SUSPENSION", SU-9.
9. After installation, check wheel alignment. Refer to "ON-VEHICLE SERVICE — Front Wheel Alignment", SU-7.

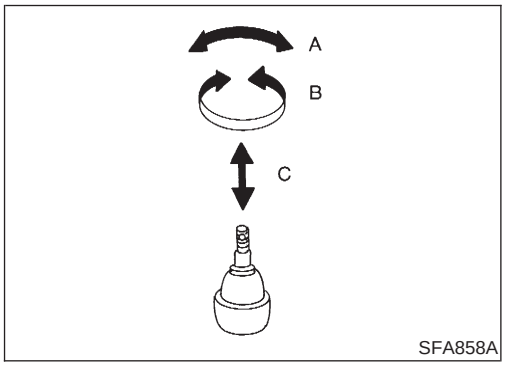
INSPECTION

NJSU0019

Transverse Link

NJSU0019S01

- Check transverse link for damage, cracks or deformation. Replace it if necessary.
- Check rubber bushing for damage, cracks and deformation. Replace transverse link if necessary.



Lower Ball Joint

NJSU0019S02

- Check ball joint for play. Replace transverse link assembly if any of the following cases occur. Ball stud is worn, play in axial direction is excessive or joint is hard to swing.
  Before checking, turn ball joint at least 10 revolutions so that ball joint is properly broken in.

  Swinging force "A":
  (measuring point: cotter pin hole of ball stud):
  7.8 - 82.4 N (0.8 - 8.4 kg, 1.8 - 18.5 lb)
  Turning torque "B":
  0.50 - 4.90 N·m (5.1 - 50 kg-cm, 4.4 - 43.4 in-lb)
  Vertical end play "C":
  0 mm (0 in)
- Check dust cover for damage. Replace it and cover clamp if necessary.

Service Data and Specifications (SDS)

GENERAL SPECIFICATIONS (FRONT)

=NJSU0020

Applied model	QG15DE	QG18DE	YD22T
Suspension type	Independent MacPherson strut		
Shock absorber type	Double-acting hydraulic		
Stabilizer bar	*1	Standard	Standard

*1: Option for LX grade.

FRONT WHEEL ALIGNMENT (UNLADEN*1)

NJSU0021

			Standard	
			QG enigne	YD engine
Camber Degree minute (Decimal degree)		Minimum	−1°05′ (−1.08°)	−1°07′ (−1.12°)
		Nominal	−0°20′ (−0.33°)	−0°22′ (−0.37°)
		Maximum	0°25′ (0.42°)	0°23′ (0.38°)
		Left and right difference	45′ (0.75°)	
Caster Degree minute (Decimal degree)		Minimum	0°54′ (0.90°)	0°53′ (0.88°)
		Nominal	1°39′ (1.65°)	1°38′ (1.63°)
		Maximum	2°24′ (2.40°)	2°23′ (2.38°)
		Left and right difference	45′ (0.75°)	
Kingpin inclination Degree minute (Decimal degree)		Minimum	13°52′ (13.87°)	13°55′ (13.92°)
		Nominal	14°37′ (14.62°)	14°40′ (14.67°)
		Maximum	15°22′ (15.37°)	15°25′ (15.42°)
Total toe-in	Distance (A − B) mm (in)	Minimum	1 (0.04)	1.5 (0.059)
		Nominal	2 (0.08)	2.5 (0.098)
		Maximum	3 (0.12)	3.5 (0.138)
	Angle (left plus right) Degree minute (Decimal degree)	Minimum	0°06′ (0.10°)	0°08′ (0.13°)
		Nominal	0°11′ (0.18°)	0°14′ (0.23°)
		Maximum	0°17′ (0.28°)	0°20′ (0.33°)
Wheel turning angle Full turn*2	Inside Degree minute (Decimal degree)	Minimum	34°00′ (34.00°)	
		Nominal	37°00′ (37.00°)	
		Maximum	38°00′ (38.00°)	
	Outside Degree minute (Decimal degree)	Nominal	31°00′ (31.00°)	

*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

*2: On power steering models, wheel turning force (at circumference of steering wheel) of 98 to 147 N (10 to 15 kg, 22 to 33 lb) with engine idle.

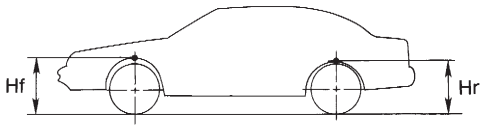
LOWER BALL JOINT

NJSU0022

Swinging force “A” (Measuring point: cotter pin hole of ball stud) N (kg, lb)	7.8 - 824 (0.8 - 84, 1.8 - 185)
Turning torque “B” N·m (kg-cm, in-lb)	0.50 - 4.90 (5.1 - 50.0, 4.4 - 43.4)
Vertical end play “C” mm (in)	0 (0)

WHEELARCH HEIGHT (UNLADEN*1)

NJSU0041



SFA818A

Applied model	QG engine		YD engine		QG engine		YD engine	
	Sedan				Hatchback			
	185/65R15	195/60R15	185/65R15	195/60R15	185/65R15	195/60R15	185/65R15	195/60R15
Front (Hf) mm (in)	670 (26.38)	667 (26.26)	668 (26.30)	665 (26.18)	670 (26.38)	667 (26.26)	668 (26.30)	665 (26.18)
Rear (Hr) mm (in)	658 (25.91)	654 (25.75)	658 (25.91)	654 (25.75)	658 (25.91)	654 (25.75)	658 (25.91)	654 (25.75)

*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

WHEEL RUNOUT

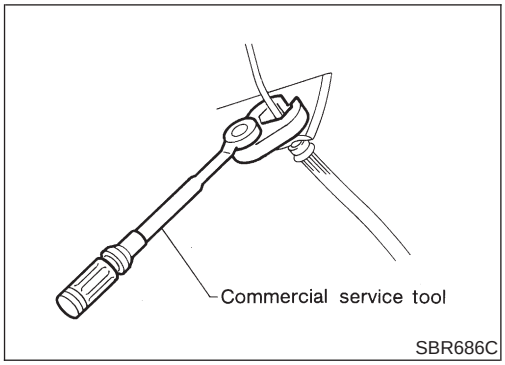
NJSU0023

Wheel type	Aluminum	Steel wheel
Radial runout limit mm (in)	0.3 (0.012)	0.5 (0.020)
Lateral runout limit mm (in)	0.3 (0.012)	0.8 (0.031)

WHEEL BALANCE

NJSU0044

Maximum allowable unbalance	Dynamic (At rim flange) g (oz)	10 (0.35) (one side)
	Static g (oz)	20 (0.71)



SBR686C

Precautions

PRECAUTIONS

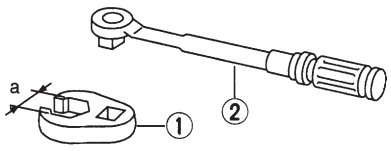
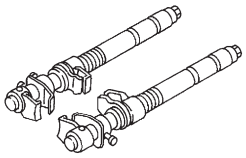
NJSU0024

- **When installing each rubber part, final tightening must be carried out under unladen condition* with tires on ground. Oil will shorten the life of rubber bushes. Be sure to wipe off any spilled oil.**
  ***: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.**
- **Use flare nut wrench when removing or installing brake tubes.**
- **After installing removed suspension parts, check wheel alignment.**
- **Do not jack up at the trailing arm and lateral link.**
- **Always torque brake lines when installing.**
- **Lock nuts are unreusable parts; always use new ones. When replacing, do not wipe the oil off of the new lock nut before tightening.**

Preparation

COMMERCIAL SERVICE TOOLS

NJSU0026

Tool name	Description	
Equivalent to 1 Flare nut crowfoot 2 Torque wrench	 NT360	Removing and installing brake piping **a: 10 mm (0.39 in)**
Spring compressor	 NT717	Removing and installing coil spring

Noise, Vibration and Harshness (NVH) Troubleshooting

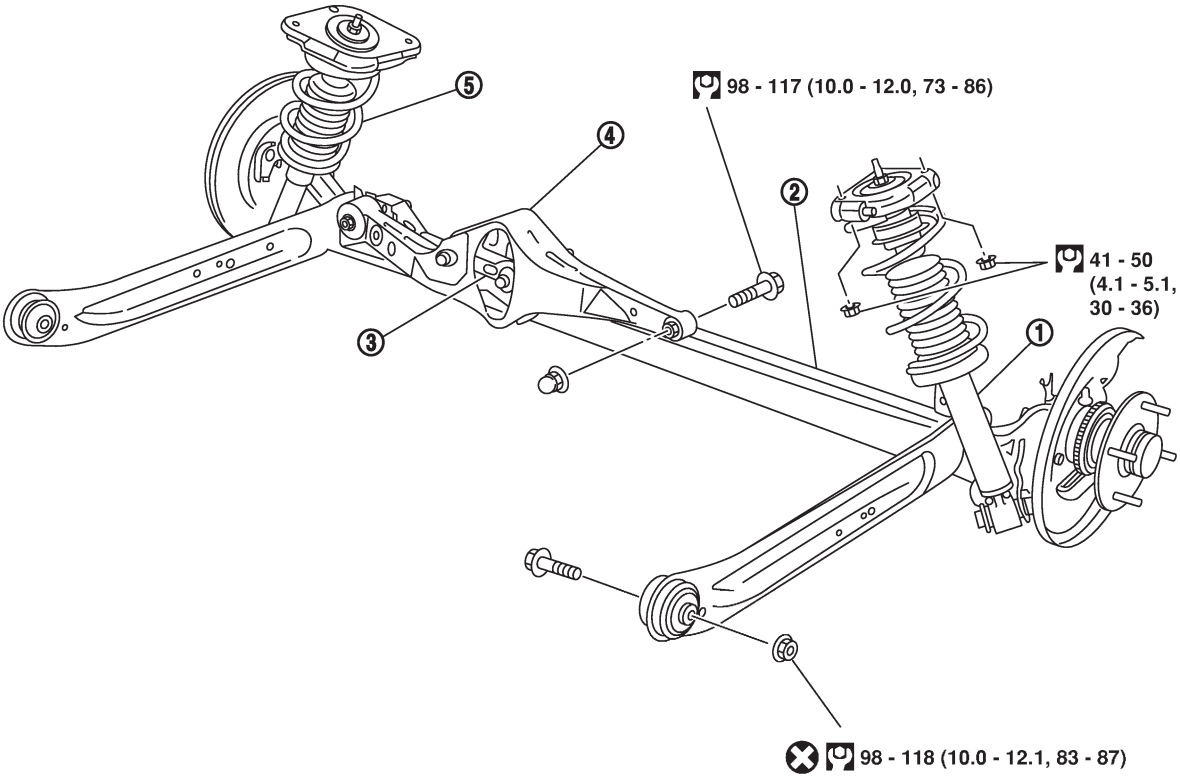
NJSU0027

Refer to “Noise, Vibration and Harshness (NVH) Troubleshooting”, “FRONT SUSPENSION”, SU-4.

Components

NJSU0028

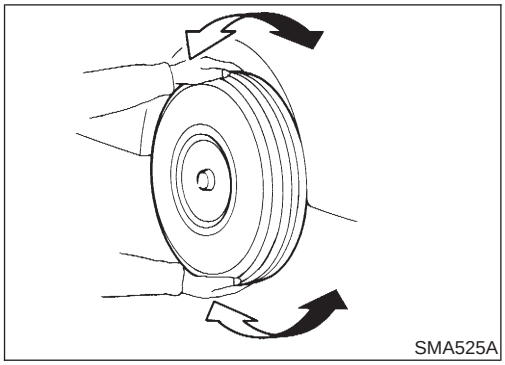
SEC. 431



: N•m (kg-m, ft-lb)

NAX014

1. Shock absorber
2. Torsion beam
3. Control rod
4. Lateral link
5. Coil spring


SMA525A

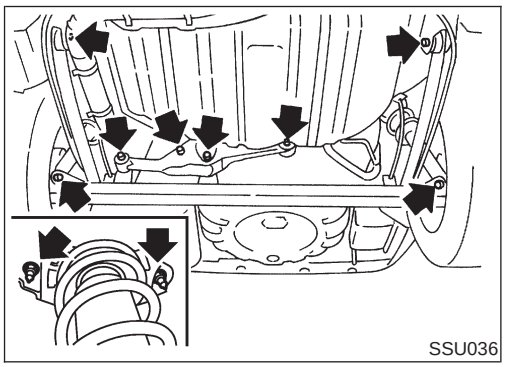
On-vehicle Service

REAR SUSPENSION PARTS

NJSU0029

Check axle and suspension parts for excessive play, wear or damage.

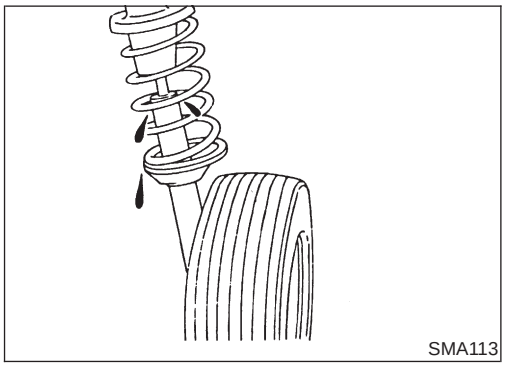
- Shake each rear wheel to check for excessive play.


SSU036

- Retighten all nuts and bolts to the specified torque.

  Tightening torque:

  Refer to “REAR SUSPENSION”, SU-17.


SMA113

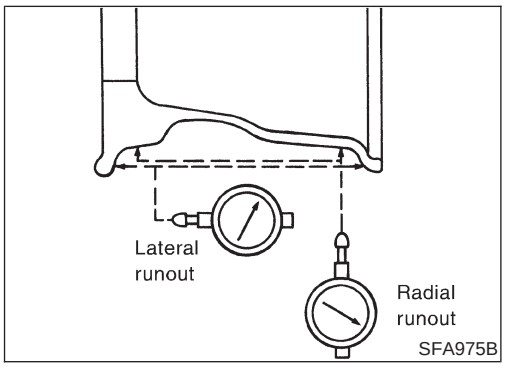
- Check shock absorber for oil leakage or other damage.
- Check wheelarch height. Refer to “On-vehicle Service”, “FRONT SUSPENSION PARTS”, SU-6.

REAR WHEEL ALIGNMENT

NJSU0030

Before checking rear wheel alignment, be sure to make a preliminary inspection (Unladen*).

*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.



SFA975B

Preliminary Inspection

NJSU0030S01

1. Check tires for wear and improper inflation.
2. Check wheels for deformation, cracks and other damage. If deformed, remove wheel and check wheel runout.

a. Remove tire from wheel and mount wheel on a tire balance machine.

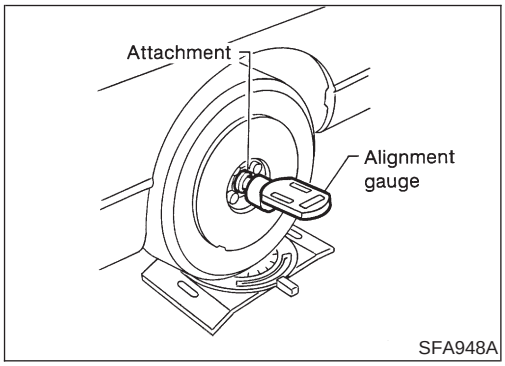
b. Set dial indicator as shown in the illustration.

   Wheel runout (Dial indicator value):

   Refer to SDS, SU-15.

3. Check front wheel bearings for looseness.
4. Check front suspension for looseness.

5. Check steering linkage for looseness.
6. Check that front shock absorbers work properly.
7. Check vehicle posture (Unladen).



Camber

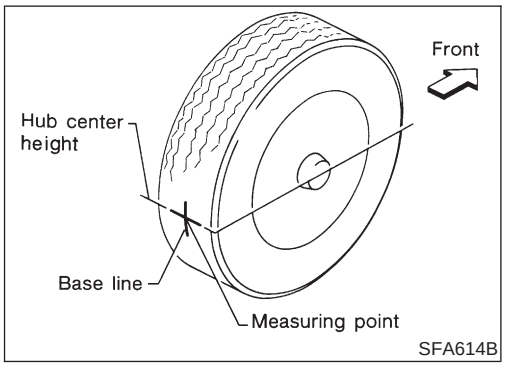
NJSU0030S02

Camber is preset at factory and cannot be adjusted.

Camber:

Refer to SDS, SU-25.

- If the camber is not within specification, inspect and replace any damaged or worn rear suspension parts.



Toe-in

NJSU0030S03

Toe-in is preset at factory and cannot be adjusted. Measure toe-in using following procedure. If out of specification, inspect and replace any damaged or worn rear suspension parts.

WARNING:

- **Perform following procedure always on a flat surface.**
- **Make sure that no person is in front of the vehicle before pushing it.**

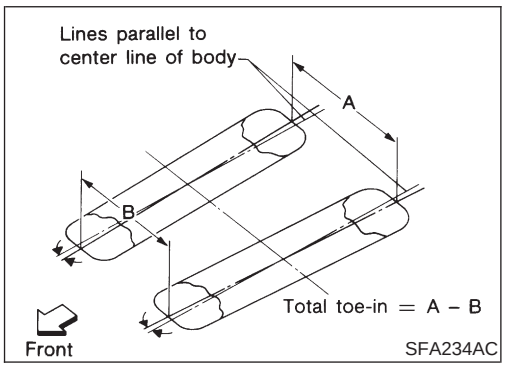
1. Bounce rear of vehicle up and down to stabilize the posture.
2. Push the vehicle straight ahead about 5 m (16 ft).
3. Put a mark on base line of the tread (rear side) of both tires at the same height of hub center. This mark is a measuring point.
4. Measure distance "A" (rear side).
5. Push the vehicle slowly ahead to rotate the wheels 180 degrees (1/2 turn).

If the wheels have rotated more than 180 degrees (1/2 turn), try the above procedure again from the beginning. Never push vehicle backward.

6. Measure distance "B" (front side).

Total toe-in: A − B

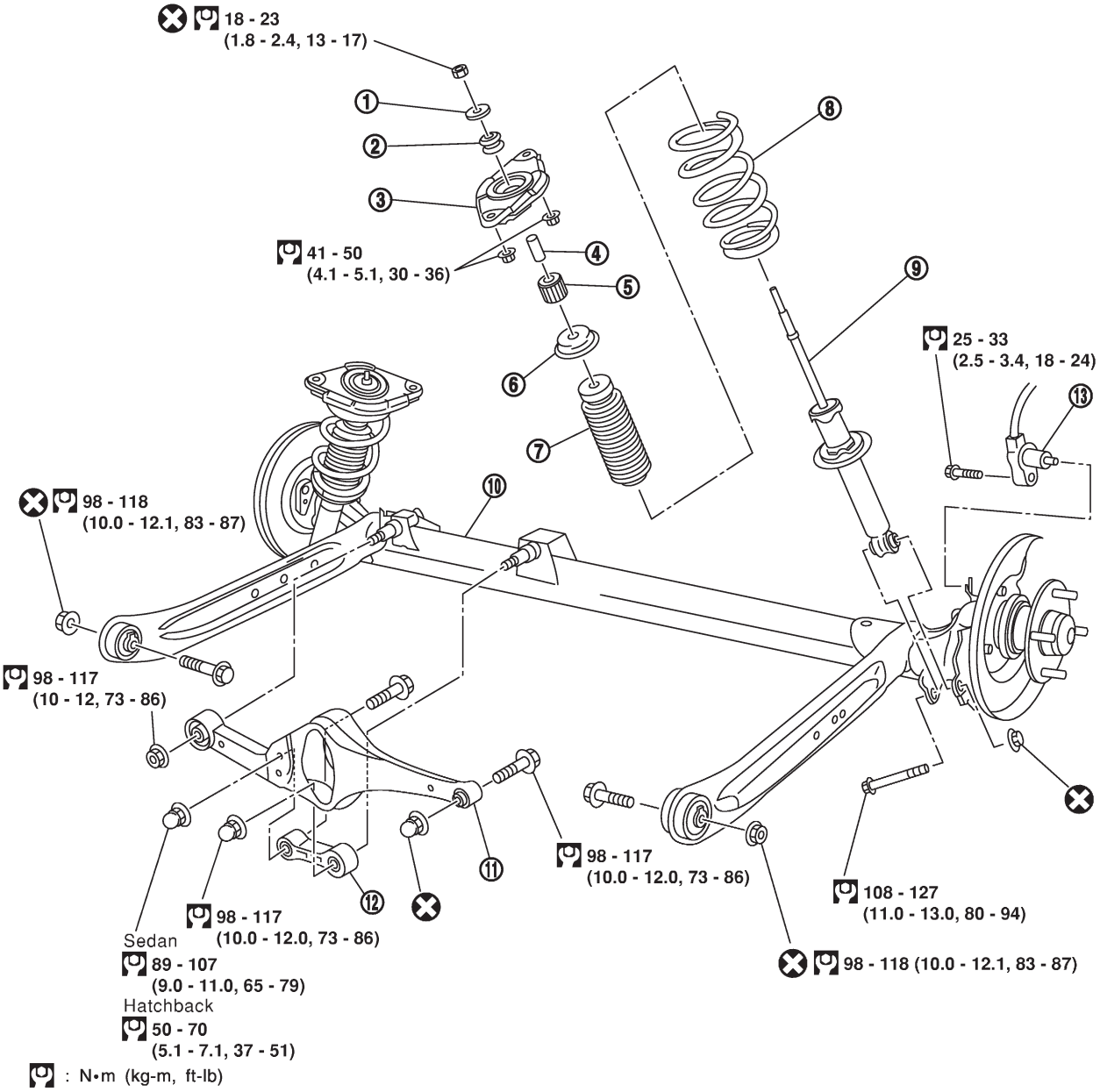
Refer to SDS, SU-25.



Removal and Installation

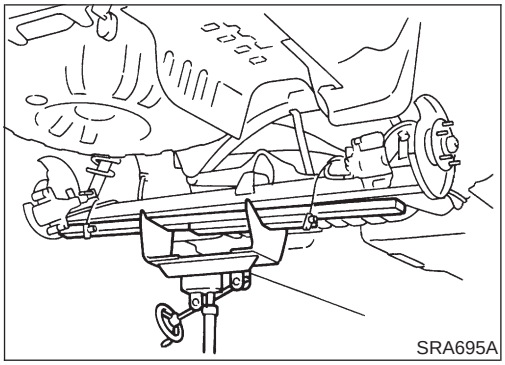
NJSU0031

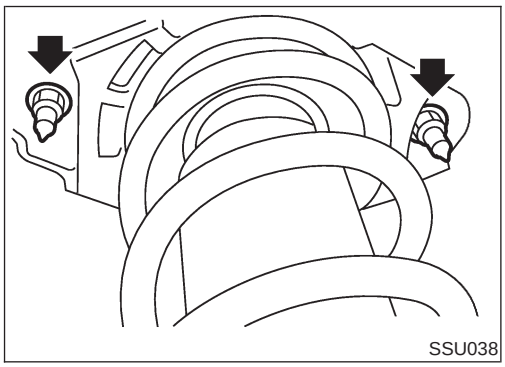
SEC. 431

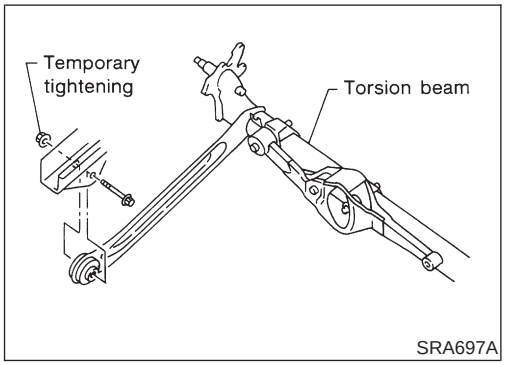


NAX015

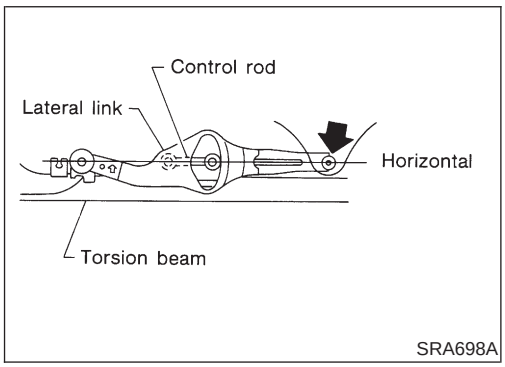
1. Washer
2. Bushing
3. Shock absorber mounting bracket
4. Collar
5. Bushing
6. Bound bumper cover
7. Bound bumper
8. Coil spring
9. Shock absorber
10. Torsion beam
11. Lateral link
12. Control rod
13. ABS sensor


SRA695A


SSU038



SRA697A



SRA698A

REMOVAL

NJSU0031S01

CAUTION:

- **Before removing the rear suspension assembly, disconnect the ABS wheel sensor from the assembly. Failure to do so may result in damage to the sensor wires and the sensor becoming inoperative.**
- **Remove suspension assembly.**

1. Disconnect brake hydraulic lines and parking brake cable at toggle lever. (Models with drum brakes.)
   - Drain brake fluid before disconnecting brake lines.
2. Disconnect parking brake cable from caliper and remove brake caliper and rotor. (Models with disc brakes.)
   Suspend caliper assembly with wire so as not to stretch brake hose.
   Be careful not to depress brake pedal, or piston will pop out.
   Make sure brake hose is not twisted.
3. Using a transmission jack, raise torsion beam a little, and remove nuts and bolts from the trailing arm, shock absorber assembly (lower side) and lateral link (Body side).
4. Lower transmission jack, and remove suspension.
5. Remove strut securing nuts (upper side). Then pull out strut assembly.

INSTALLATION

NJSU0031S02

- Install suspension assembly.

CAUTION:

Refill with new brake fluid "DOT 4".
Never reuse drained brake fluid.

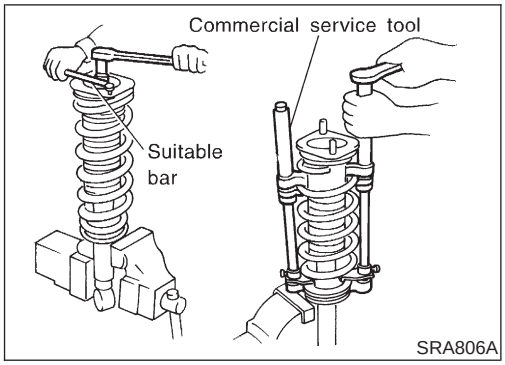
1. Attach torsion beam, at trailing arm and lateral link, to vehicle. Do not tighten bolts at this time.
2. Using a transmission jack, place lateral link and control rod horizontally against torsion beam. Tighten lateral link on vehicle.
3. Attach shock absorber assembly to vehicle. Then tighten the lower side of shock absorber assembly.
4. Lower torsion beam to fully extended position. Remove transmission jack and tighten torsion beam, at trailing arm, to specified torque. Refer to SU-20.
5. Install brake hydraulic lines and tighten flare nuts.
   : 15 - 18 N·m (1.5 - 1.8 kg-m, 11 - 13 ft-lb)
6. Install ABS wheel sensor.

Coil Spring and Shock Absorber

REMOVAL AND INSTALLATION

NJSU0032

Remove shock absorber upper and lower fixing nuts.
Do not remove piston rod lock nut on vehicle.



DISASSEMBLY

NJSU0033

1. Set shock absorber in vise, then **loosen** piston rod lock nut. **Do not remove piston rod lock nut at this time.**
2. Compress spring with Tool so that the shock absorber upper spring seat can be turned by hand.

WARNING:

Make sure that the pawls of the two spring compressors are firmly hooked on the spring. The spring compressors must be tightened alternately so as not to tilt the spring.

3. Remove piston rod lock nut.

INSPECTION

NJSU0034

Shock Absorber Assembly

NJSU0034S01

- Check for smooth operation through a full stroke, both compression and extension.
- Check for oil leakage on welded or gland packing portions.
- Check piston rod for cracks, deformation or other damage. Replace if necessary.

Upper Rubber Seat and Bushing

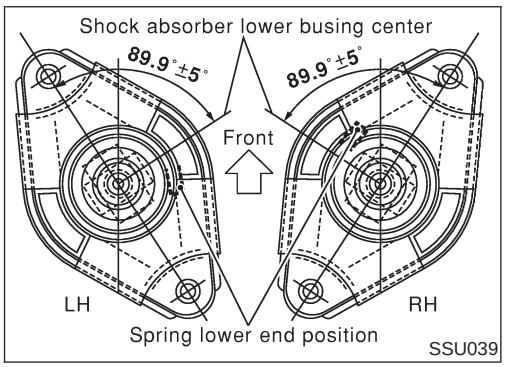
NJSU0034S02

Check rubber parts for deterioration or cracks.
Replace if necessary.

Coil Spring

NJSU0034S03

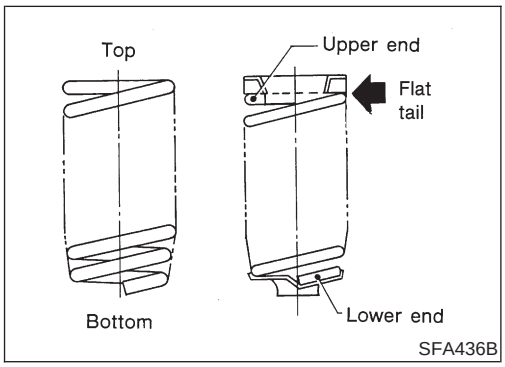
Check for cracks, deformation or other damage. Replace if necessary.



ASSEMBLY

NJSU0035

- Locate upper spring seat as shown.



- When installing coil spring, be careful not to reverse top and bottom direction. (Top end is flat.)
- When installing coil spring on shock absorber, it must be positioned as shown in figure at left.

CAUTION:

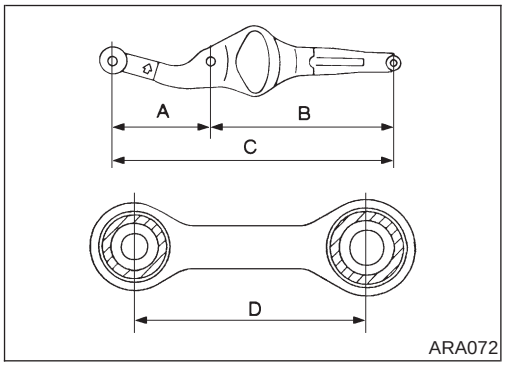
Do not reuse piston rod lock nut.

Torsion Beam, Lateral Link and Control Rod

DISASSEMBLY

NJSU0036

- Remove torsion beam assembly. Refer to “Removal and Installation”, “REAR SUSPENSION”, SU-21.
- Remove lateral link and control rod from torsion beam.



INSPECTION

NJSU0037

- Check for cracks, distortion or other damage. Replace if necessary.

  Standard length:

  A 207 - 208 mm (8.15 - 8.19 in)
  B 394 - 395 mm (15.51 - 15.55 in)
  C 601 - 603 mm (23.66 - 23.74 in)
  D 106 - 108 mm (4.17 - 4.25 in)

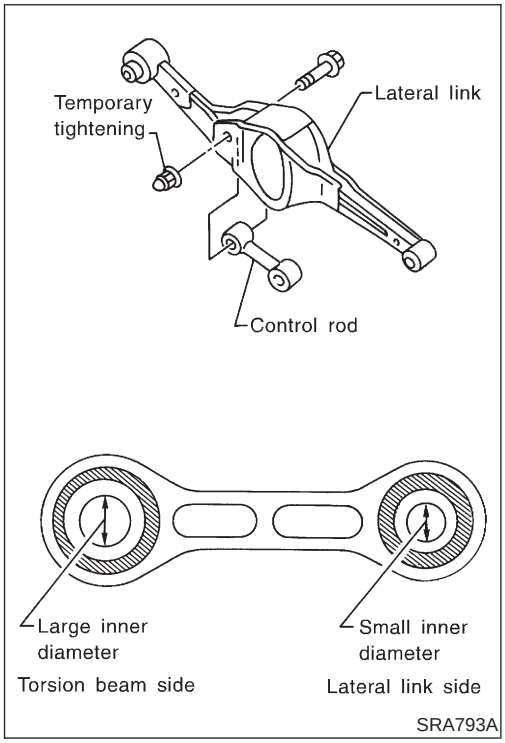
- Check all rubber parts for wear, cracks or deformation. Replace if necessary.

ASSEMBLY

NJSU0038

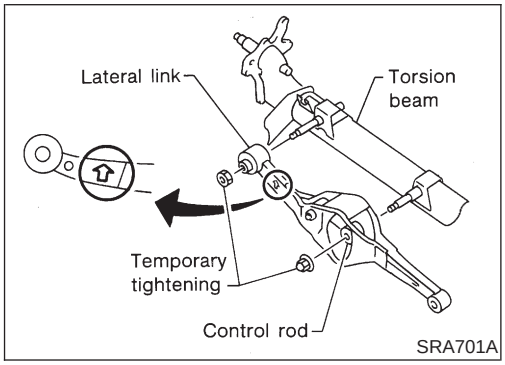
1. Temporarily assemble lateral link and control rod.

- When installing the control rod, connect the bush with the smaller inner diameter to the lateral link.

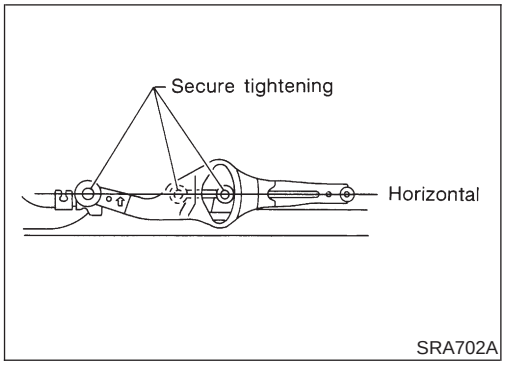


2. Temporarily install lateral link and control rod on torsion beam.

- When installing, place lateral link with the arrow topside.



Torsion Beam, Lateral Link and Control Rod (Cont'd)



3. Place lateral link and control rod horizontally against torsion beam, and tighten to the specified torque.
4. Install torsion beam assembly. Refer to "Removal and Installation", "REAR SUSPENSION", SU-21.

Service Data and Specifications (SDS)

GENERAL SPECIFICATIONS (REAR)

=NJSU0039

Suspension type	Multi-link beam suspension
Shock absorber type	Double-acting hydraulic

REAR WHEEL ALIGNMENT (UNLADEN*)

NJSU0040

Camber Degree minute (Decimal degree)		Minimum	−2°15′ (−2.25°)
		Nominal	−1°03′ (−1.05°)
		Maximum	−0°45′ (−0.75°)
Total toe-in	Distance (A − B) mm (in)	Minimum	−2 (−0.08)
		Nominal	2 (0.08)
		Maximum	6 (0.24)
	Angle (left plus right) Degree minute (Decimal degree)	Minimum	−0°12′ (−0.20°)
		Nominal	0°12′ (0.20°)
		Maximum	0°36′ (0.60°)

*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.